ABSTRACT

Disclosed are catalyst systems and methods of making the catalyst systems/supports for the polymerization of an olefin containing a solid titanium catalyst component having a substantially spherical shape and containing a titanium compound and a support made from a magnesium compound and an alkyl silicate. The catalyst system may further contain an organoaluminum compound and an organosilicon compound. Also disclosed are methods of making an impact copolymer involving polymerizing an olefin to provide a polyolefin matrix and polymerizing a polyolefin rubber using a solid titanium catalyst component containing a titanium compound and a support made from a magnesium compound and an alkyl silicate.